Version: 7.1

Topic 2, Knowledge-Based Section A

Question: 1

A consultant wants to improve the performance of reports by moving calculations to the data layer and materializing them in the extract.

Which calculation should the consultant use?

A. ZN([Sales])*(1 - ZN([Discount]))
B. CASE [Sector Parameter]WHEN 1 THEN "green"WHEN 2 THEN "yellow"
C. SUM([Profit])/SUM([Sales])
D. POWER(ZN(SUM([Sales]))/LOOKUP(ZN(SUM([Sales])), FIRST()),ZN(1/(INDEX()-1)))- 1END

Answer: C

E xpl anati on:

To improve performance by moving calculations to the data layer and materializing them in the extract, the consultant should choose calculations that benefit from pre-computation and significantly reduce the load during query time:
Aggregation-Level Calculation: The formula SUM([Profit])/SUM([Sales]) calculates a ratio at an aggregate level, which is ideal for pre-computation. Materializing this calculation in the extract means that the complex division operation is done once and stored, rather than being recalculated every time the report is accessed.
Performance Improvement: By pre-computing this aggregate ratio, Tableau can utilize the pre-calculated fields directly in visualizations, which speeds up report loading and interaction times as the heavy lifting of data processing is done during the data preparation stage.
Reference:
Materialization in Extracts: This concept involves pre-calculating and storing complex aggregations or calculations within the Tableau data extract itself, improving performance by reducing the computational load during visualization rendering.

Question: 2

A consultant builds a report where profit margin is calculated as SUM([Profit]) / SUM([Sales]). Three groups of users are organized on Tableau Server with the
following levels of data access that they can be granted.

. Group 1: Viewers who cannot see any information on profitability
. Group 2: Viewers who can see profit and profit margin
. Group 3: Viewers who can see profit margin but not the value of profit

Which approach should the consultant use to provide the required level of access?

A. Use user filters to access data on profitability to all groups. Then, create a calculated field that allows visibility of profit value to Group 2 anduse the calculation in the view in the report.
B. Specify in the row-level security (RLS) entitlement table individuals who can see profit, profit margin, or none of these. Then, use the tabledata to create user filters in the report.
C. Use user filters to allow only Groups 2 and 3 access to data on profitability. Then, create a calculated field that limits visibility of profit value toGroup 2 and use the calculation in the view in the report.
D. Specify with user filters in each view individuals who can see profit, profit margin, or none of these.

Answer: C

E xpl anati on:

The approach of using user filters to control access to data on profitability for Groups 2 and 3, combined with a calculated field that restricts the visibility of profit value to only Group 2, aligns with Tableau's best practices for managing content permissions. This method ensures that each group sees only the data they are permitted to view, with Group 1 not seeing any profitability information, Group 2 seeing both profit and profit margin, and Group 3 seeing only the profit margin without the actual profit values. This setup can be achieved through Tableau Server's permission capabilities, which allow for detailed control over what each user or group can see and interact with12.
Reference: The solution is based on the capabilities and permission rules that are part of Tableau Server's security model, as detailed in the official Tableau documentation12. These resources provide guidance on how to set up user filters and calculated fields to manage data access levels effectively.

Question: 3

A client is using the Tableau Content Migration Tool to move content from an old Tableau Server to a new Tableau Server.

Which content will need to be moved using a different tool or process?

A. Published data sources that use live connections
B. Tableau Prep flows
C. Published data sources that use extracts
D. Workbooks

Answer: B

E xpl anati on:

When migrating content between Tableau servers, certain types of content may require special consideration or different tools for migration:
Tableau Prep Flows: These are specific to Tableau Prep and are not included in the standard content migration capabilities of the Tableau Content Migration Tool. Tableau Prep flows often require separate processes for migration due to their distinct setup and integration with data sources and

workflows. Published Data Sources and Workbooks: These can typically be migrated directly using the Tableau Content Migration Tool, which supports moving published data sources (both live connections and extracts) and workbooks without requiring additional tools. Reference: Tableau Help and Support: Offers comprehensive tutorials and guidelines on using different tools for migrating various types of content, including the specific requirements for migrating Tableau Prep flows which are not covered by the standard content migration tool.

Question: 4

A stakeholder has multiple files saved (CSV/Tables) in a single location. A few files from the location are required for analysis. Data transformation (calculations)
is required for the files before designing the visuals. The files have the following attributes:

. All files have the same schema.
. Multiple files have something in common among their file names.
. Each file has a unique key column.

Which data transformation strategy should the consultant use to deliver the best optimized result?

A. Use join option to combine/merge all the files together before doing the data transformation (calculations).
B. Use wildcard Union option to combine/merge all the files together before doing the data transformation (calculations).
C. Apply the data transformation (calculations) in each require file and do the wildcard union to combine/merge before designing the visuals.
D. Apply the data transformation (calculations) in each require file and do the join to combine/merge before designing the visuals.

Answer: B

E xpl anati on:

Moving calculations to the data layer and materializing them in the extract can significantly improve the performance of reports in Tableau. The calculation ZN([Sales])*(1 - ZN([Discount])) is a basic calculation that can be easily computed in advance and stored in the extract, speeding up future queries. This type of calculation is less complex than table calculations or LOD expressions, which are better suited for dynamic analysis and may not benefit as much from materialization12.
Reference: The answer is based on the best practices for creating efficient calculations in Tableau, as described in Tableau's official documentation, which suggests using basic and aggregate calculations to improve performance1. Additionally, the process of materializing calculations in extracts is detailed in Tableau's resources2.
Given that all files share the same schema and have a common element in their file names, the wildcard union is an optimal approach to combine these files before performing any transformations. This strategy offers the following advantages:
Efficient Data Combination: Wildcard union allows multiple files with a common naming scheme to be combined into a single dataset in Tableau, streamlining the data preparation process.
Uniform Schema Handling: Since all files share the same schema, wildcard union ensures that the

combined dataset maintains consistency in data structure, making further data manipulation more straightforward.
Pre-Transformation Combination: Combining the files before applying transformations is generally more efficient as it reduces redundancy in transformation logic across multiple files. This means transformations are written and processed once on the unified dataset, rather than repeatedly for each individual file.
Reference:
Wildcard Union in Tableau: This feature simplifies the process of combining multiple similar files into a single Tableau data source, ensuring a seamless and efficient approach to data integration and preparation.

Question: 5

A client has many published data sources in Tableau Server. The data sources use the same databases and tables. The client notices different departments
give different answers to the same business questions, and the departments cannot trust the data. The client wants to know what causes data sources to return
different data.

Which tool should the client use to identify this issue?

A. Tableau Prep Conductor
B. Ask Data
C. Tableau Catalog
D. Tableau Resource Monitoring Tool

Answer: C

E xpl anati on:

The Tableau Catalog is part of the Tableau Data Management Add-on and is designed to help users understand the data they are using within Tableau. It provides a comprehensive view of all the data assets in Tableau Server or Tableau Online, including databases, tables, and fields. It can help identify issues such as data quality, data lineage, and impact analysis. In this case, where different departments are getting different answers to the same business questions, the Tableau Catalog can be used to track down inconsistencies and ensure that everyone is working from the same, reliable data source.
Reference: The recommendation for using Tableau Catalog is based on its features that support data discovery, quality, and governance, which are essential for resolving data inconsistencies across different departments12.

When different departments report different answers to the same business questions using the same databases and tables, the issue often lies in how data is being accessed and interpreted differently across departments. Tableau Catalog, a part of Tableau Data Management, can be used to solve this problem:
Visibility: Tableau Catalog gives visibility into the data used in Tableau, showing users where data comes from, where it's used, and who's using it.
Consistency and Trust: It helps ensure consistency and trust in data by providing detailed metadata management that can highlight discrepancies in data usage or interpretation.

Usage Metrics and Lineage: It offers tools for tracking usage metrics and understanding data lineage, which can help in identifying why different departments might see different results from the same underlying data.
Reference:
Tableau Catalog Usage: The Catalog is instrumental in providing a detailed view of the data environment, allowing organizations to audit, track, and understand data discrepancies across different users and departments.